

From Training to Education:

New Pedagogical Models in Dialogue

Xiaozhou Xu

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Introduction

Xiaozhou Xu *

The importance of Technical and Vocational Education (TVE) to the world development is just like what was said in *Technical and Vocational Education and Training: A Vision for the Twenty-First Century*, a report to the Second International Congress on TVE organized by UNESCO: *Technical and Vocational Education (TVE) has a crucial role to play in this area as an effective tool to realise the objectives of a culture of peace, environmentally-sound sustainable development, social cohesion and international citizenship.* In the era of knowledge economy, the comprehensive strength of a country lies more and more in the professional qualifications and professional skills of its workforce. Every country in the world, therefore, has been seeking the mode of optimizing technical and vocational development. China has witnessed the rapid development of TVE since its reform and opening-up to the outside world. In 2008, the students enrollment scale in secondary vocational education and postsecondary vocational education in the nation amounted to 11 million with the total registered students over 30 million, half of the enrollment in senior high school education and higher education. In 2009, the registered students in secondary vocational schools reached 20.56 million and the student enrollment scale was supposed to reach 8.6 million, a bit larger than that of regular senior high schools.

In response to the socio-economic modernization in China, vocational education finds it imperative to cater to the needs of human resources set by the industrial upgrading in line with the demographic and economic change, enhance economic growth and international competitiveness and step up the all-round qualifications and the employment capabilities of the workforce. In this context, the drive of developing vocational education is bound to become the strategic

* Xiaozhou Xu: Dean and Professor, College of Education, Zhejiang University, Hangzhou, P.R. China.

choice of educational development across the nation. The vocational education was incorporated into one of 11 major strategic themes in *Outline of the National Medium and Long-term Education Reform and-development (2010—2020) (Draft for Public Comment)* issued on February 28, 2010. It is abundantly clear in the Outline that in the next 10 years a series of supporting policies are to be developed in order to intensify the attractiveness of vocational education and boost the enthusiasm of social investment. Up to 2020, a modern vocational education system will be created adapting to the economic growth mode transformation and economy restructuring, reflecting the idea of lifelong education and coordinating the development of secondary and postsecondary vocational education.

However, since the TVE in China was built on undesirable bases, there are still some undesirable features in striving to create a large-scale vocational education system with unbalanced regional development.

In view of mission statement and policy, due to the insufficient understanding of the significance, status and functions of TVE, importance was generally attached more to regular education, degree education and admission rate of regular education and less to vocational education, vocational skills training and employment rate of vocational education. The gap remains wide between the mission statement of vocational schools and the demands for social and students' personal development. The implementation of such personnel and labor policies as employment access system and the vocational qualification certificate system are hampered and the financial investment from the government needs to be further increased.

In view of enrollment, most of secondary vocational school students are those who fail to be accepted by the regular high schools. Many of them don't put too much value on blue-collar jobs and their parents unwillingly get their children to receive TVE. Junior high school graduates try every means to go to regular senior high schools and the regular high school graduates would spend much more money for regular colleges and universities admission rather than postsecondary vocational schools. Most students prefer to be "cadres" or take "iron rice bowl" occupations instead of involving themselves in technical or manual labor work. Many graduates from vocational schools have trouble hunting jobs or engaging themselves in low wage but hard work, which deteriorates the attractiveness of vocational schools.

In view of school teaching, both soft and hard teaching facilities are inadequate in secondary vocational schools. What comes first is the shortage of

teacher faculties and the undesirable composition of such teachers. The student-teacher ratio in secondary vocational schools keeps rising with 16:1 in 2000, less than 18:1 in 2003, over 21:1 in 2005 and 26:1 in 2009. Compared with that in the regular high schools and the ratio of 16:1 set by the Ministry of Education for vocational schools, the student-teacher ratio in vocation schools lags behind. Also, there is severe shortage of the teachers with double qualifications both in professional knowledge and practical teaching experience. Finally, many secondary vocational schools can only offer relative small practice bases and teaching facilities which result in its weakness of teaching practice.

Along with satisfying the fundamental conditions of conventional TVE, China's TVE has to be faced with such requirements as globalization, industrialization, informalization, modernization and lifelong learning. Confronted with the extremely complex social demands, China must adopt a step-by-step approach to build a modern TVE system catered to the requirements for diverse regions and businesses.

In the process of TVE development in China, several issues deserve particular attention and call for efficient solutions. Just to name a few:

- Strengthening the responsibilities of governments at all levels for the TVE development to promote the interactive development between TVE and industries and ensure the implementation of related policies and regulations;

- Raising funds through multiple channels to enlarge the TVE financial investment;

- Converting the conventional understanding of TVE and employment to intensify its attractiveness;

- Improving the vocational qualification standards to strengthen the employment access system;

- Promoting the TVE reform to establish the practice-oriented curriculum and teaching systems;

- Integrating industries and education to expand practice training bases;

- Stepping up the training of teachers with double qualifications to build a vast contingent of teachers with characteristics of vocational education;

- Broadening the channels of TVE to bridge the articulation mechanism of TVE at all levels.

In order to solve all such problems, it is necessary to better the understanding of the advanced experiences from other countries. The representatives of relevant universities, schools, research institutes, governments and enterprises from China and Italy had participated Italy-China Conference on Technical and Vocational

Education in Rome in May, 2009 and also present at the conference were the representatives from Chinese embassy in Italy, the Ministry of Foreign Affairs and the Ministry of Education in Italy. The participants posed proposals on the current issues of TVE development existing in these two countries. The present book is a thesis collection of the conference papers and discussions which not only represents the joint efforts of experts from China and Italy on the TVE development but also moves the readers to further reflection.

Xiaozhou Xu
March 22, 2011

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First Session

**An Overview of the Society
and the Systems**

『Words of Welcome』

Mario TOSO¹

Eminent Professors, distinguished guests, dear friends,

It is my great honour, and my sincere pleasure to welcome you to Salesian University on the occasion of the Symposium on *Technical Education and Vocational Training in China and in Italy with regard to professional competence, human and social development*. It has been the third China-Italy Symposium since 2006, the first held in Rome, and we wish it will be as successful as the two previous Symposia we jointly celebrated in China.

Twice Italian delegations have journeyed to China, and now our Chinese counterparts have come all the way to Rome: we are truly delighted to have you among us. The memories of our travels to China, the warm welcome and the excellent organization are still vivid in our minds. We hope you will be as comfortable in Rome as we were in Hangzhou on the two previous occasions.

Organizing and celebrating an international Symposium is no mean matter. It requires long-term planning and detailed follow-up by the organizers; it needs the support of school authorities, the professional competence of a dozen professors on each side, time off busy schedules, long hours travelling and not a small amount of money.

I think I must thank and congratulate College of Education of Zhejiang University and Faculty of Sciences of Education of Salesian University, respectively represented by their deans, Prof. Xiaozhou Xu and Prof. Carlo Nanni, for making it possible for all of us to come together in Rome for three days of academic exchange.

I have followed with keen interest the development of our China-Italy cooperation over the past years, and have been asking myself what makes us do it! It is a long tradition bringing Italians (missionaries, men of science, travellers, all

¹ Mario TOSO: Former President of the Salesian University, Rome, Italy, and Professor of Social and Political Philosophy in the Faculty of Philosophy.

of them great admirers of China's civilization) to head east to encounter the Chinese people. Is it because both China and Italy are heirs to ancient civilizations and are proud to export culture? Is it because both nations value friendship? All of this may have contributed to strengthening our resolve. But there certainly is something else, and in my opinion it is a shared interest in education, as the way to forge future generations of honest, hardworking and responsible citizens, and thus contribute to building the future of peace-loving, prosperous and enlightened nations.

May the presentations, the discussions and the sharing in this Symposium bring us one step closer to such worthy objectives and cement our resolve to work together for the future of our young generations of citizens.

I wish you every success and a pleasant stay in Rome.

『Words of Welcome』

Xiaozhou Xu

Distinguished participants, colleagues, ladies and gentlemen,
Good afternoon! It is a great pleasure to have the opportunity to meet you here. As we all know, these days are unusual for us because the whole world is overshadowed by the H1N1 Flu. However, the flu and the distance cannot stop our friendship and academic exchanges. So we are here.

First of all, please allow me to convey my heartiest congratulations on the symposium of *Technical Education and Vocational Training in China and in Italy with regard to professional competence, human and social development*. My heartfelt thanks should go to the professors who have done an outstanding job to make this meaningful symposium possible. Thank you and congratulations!

The theme chosen for this session is undoubtedly relevant and a hot area for debate. In recent years, the development of Chinese society and economy has brought forward great demands for skilled workers and innovative talents, especially senior technicians. However, due to the conceptual bias, slow infrastructure construction and system barriers, the development of vocational education is still in its primary stage and cannot satisfy the demand. In order to cultivate qualified workers, the Chinese government has attached great importance to vocational education. I firmly believe that the opening of this symposium will promote the exchanges of thoughts and experience among all the participants, and will enhance the mutual understanding and cooperation of vocational education between China and Italy.

Dear colleagues, you might be interested in knowing a bit about my university. As one of the oldest universities in China, Zhejiang University came into existence as Qiushi Academy in 1897. In September 1998, the new Zhejiang University was established on the basis of the amalgamation of the four former individual universities. A truly comprehensive institute with a full range of disciplines, Zhejiang University aims to provide an outstanding education that will enable its students to build a future of professional, intellectual and personal

success, capable of leadership in different areas; equally important, however, is the role the university has been playing in research. With a faculty capable of top-level and large-scale research and a high proportion of graduate students, the university has been undertaking projects, both basic and applied, to address pressing issues and challenges of today and of the future. To continually achieve excellence in its core missions of education, research, and social service, Zhejiang University attaches great importance to its exchange and cooperation with international partners. At present, it has cooperative relationship with over 110 universities, governmental organizations and businesses from various parts of the world. We warmly welcome you to Hangzhou and Zhejiang University for further cooperation and academic exchanges.

Finally, I wish the symposium a complete success! Thank you for your attention!

Knowledge Society, Lifelong Learning, and Formation to Work

Michele Pellerey¹

1 The emergence of the knowledge society

To understand the emergence of what has been called the knowledge society, we must take into account the development of the productivity system in Europe, particularly in Italy. After the Second World War, the reconstruction of the Italian industrial system, particularly in the North East of Italy, and also in the other Northern regions, was based on the German model of manufacturing. Such a system set the foundations for the so-called Italian miracle of the fifties and sixties. It was the period in which the imitation model dominated.

It was during that period that the first European organization, the Community of coal and steel of 1957, was founded. During that time the production of coal (for energy) and steel (raw material for manufacturing) were the fundamental commodities for the development of industries. During the years that followed, it became more evident that the value of such activities was very low since the developing countries succeeded in setting up factories that were economically more viable for the production of steel and coal was no more being extracted in the countries of the new Economic European community. The future of the economic development was connected to designing new products and to new process of production, with an increasing emphasis on the use of new technologies. The change that took place in Belgium is very enlightening from this point of view: the more affluent French speaking region based on traditional economic activities was overwhelmed by the Flemish part more open to new goods and new ways of production.

In Italy, the most serious crisis of the eighties had its foundation on two kinds of trends: an excessive importance given to the financial aspects of the economic development, and poor investment on research and innovation. These were also

¹ Michele Pellerey: Professor Emeritus of Didactics, Salesian University, Rome, Italy.

the reasons for the crisis of Fiat and that of Olivetti, in the North West. They were also the causes for the crisis of Mondadori, a printing and publishing society, in the North East, in the mid eighties. To overcome such situations, new perspectives were accepted by the most innovative industries. The core of that change was the creation of new products, using new materials, new fashion designs; and at the same time, new and more efficient and effective ways of organizing the production processes, the management and formation of human resources, the development of new ways of distribution (over the world), new forms of publicity were also introduced. The new model of production was based on research and innovation, on knowledge and problem solving, on mental flexibility and collaborative attitude.

2 The challenges posed to the educational system

In such a scenario what are the new challenges to the educational system, and particularly to the vocational training?

The first and in many ways a new paradigm, insists on the perspective of a lifelong need for individual development through learning. Certain key competences need to be developed from the beginning till the end regarding human experience. It is no more a question of extending the school time, school contents, and school schedules. It is more important to connect schooling with learning activities that follow, with the out-of-school experiences, with the world of work and with those of professions. Today's school system is based on the transmission of a kind of knowledge that is no more adapted to the needs of the majority of people. The notion of competence clarifies such a trend: what can we do with what we know? The notion of competence derives from the world of work, but it is more and more diffused inside the educational institutions. Today a competence is understood as the capability to face the challenges of the tasks to accomplish, through the activation and orchestration of the internal resources (knowledge, skills, attitudes), and of the external means available, in a coherent and effective way. The person on the whole is involved and has to respond to the expectations of the school or of the work community. Every competence can be developed from the beginning of the school experience to the end of the active life and over. An example can be seen in the area of the linguistic competences. The competence in reading can be more and more developed not only because we can read more and more complex texts, but also because we are able to read, understand, and summarize specialized and/or technical texts.

Connected with the idea of competence is also the idea of producing some real product. That can be a written text, a project-work, a machinery, etc. In this

way the entrepreneurial aspect of the competence is underlined. From many points of view, the lifelong learning depends on the initiative of each individual. To foster such a personal quality we must develop coherent methods of intervention in the domains of self determination, and of self regulation. Students have to be stimulated and guided to develop a life project, to dedicate time and energies to the implementation of such a project, to monitor the accomplishments, to open the mind to new opportunities, and so on.

In the documents of the European Union such competences are expressed in the following manners:

a) learning to learn: the ability to pursue and organize one's own learning, either individually or in groups, in accordance with one's own needs, and awareness of methods and opportunities;

b) sense of initiative and entrepreneurship: the ability to turn ideas into action. It involves creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. The individuals are aware of the context of their work and are able to seize the opportunities that arise. Sense of initiative and entrepreneurship are the foundations for acquiring more specific skills and knowledge, needed for those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promotion of good governance.

But we must also remember that the main bases for such competences are the cultural and vocational dimensions of education. So the other key competences are the following:

a) Communication in the mother tongue which is the ability to express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing), and to interact linguistically in an appropriate and creative way on a full range of societal and cultural contexts.

b) Communication in foreign languages which involves, in addition to the main skill dimensions of communication in the mother tongue, mediation and intercultural understanding. The level of proficiency depends on several factors and the capacity for listening, speaking, reading and writing.

c) Mathematical competence and basic competences in science and technology. Mathematical competence is the ability to develop and apply mathematical thinking in order to solve a range of problems in everyday situations, with the emphasis being placed on process, activity and knowledge. Basic competences in science and technology refer to the mastery, use and application of knowledge and methodologies which explain the natural world. These involve an understanding of the changes caused by human activity and the responsibility of each individual as a citizen.